**Time allowed: 90 Minutes Max. Marks: 40**

**General Instructions:**

* **Follow the instructions given in each section.**
* **Make sure that you attempt the questions in order.**

**SECTION-A (10\*1 mark=10 marks)**

***(All questions are compulsory)***

1. Which of the following is true about a trivial functional dependency?
   1. **It is always satisfied**
   2. It is never satisfied
   3. It is satisfied in some cases
   4. It is satisfied only for certain attribute combinations
2. Which of the following is not a property of a relation in a relational model?
   1. Atomicity
   2. Consistency
   3. Integrity
   4. **Duplicity**
3. Which technique is used to improve the efficiency of query processing in a DBMS?
   1. **Indexing**
   2. Encryption
   3. Replication
   4. Partitioning
4. Which database security measure provides a way to track and record all changes made to the database?
   1. Encryption
   2. **Auditing**
   3. Backup and recovery
   4. Firewall
5. Which SQL command is used to update data in a database table?
   1. INSERT INTO
   2. MODIFY
   3. ALTER TABLE
   4. **UPDATE**
6. Which of the following is a technique used to prevent unauthorized access to data during transmission?
   1. Intrusion detection system
   2. **Virtual private network (VPN)**
   3. Public key infrastructure (PKI)
   4. Access control list (ACL)
7. What happens when a cursor is opened in DBMS?
   1. **The cursor is created and memory is allocated.**
   2. The cursor is closed and the result set is discarded.
   3. The cursor is positioned at the first row of the result set.
   4. The cursor is deleted from the database.
8. When should cursors be used in DBMS?
   1. **When retrieving a large amount of data at once**
   2. When executing a single SQL statement
   3. When working with a static result set
   4. When optimizing query performance
9. Which control structure is used to exit the loop and skip the remaining iterations?
   1. **BREAK**
   2. CONTINUE
   3. EXIT
   4. RETURN
10. Which of the following is not a key constraint in the process of normalization?
    1. Functional dependency preservation
    2. **Atomicity**
    3. Lossless-join property
    4. Multi-valued dependency preservation

**SECTION-B (5\*2 mark=10 marks)**

***(All questions are compulsory)***

1. When the values in one or more attributes being used as a foreign key must exist in another set of one or more attributes in another table, we have created a(n):
   1. Transitive Dependency
   2. Insertion Anomaly
   3. **Referential Integrity Constraint**
   4. Normal Form
2. Which of the following are TCL commands?
   1. **COMMIT and ROLLBACK**
   2. UPDATE and TRUNCATE
   3. SELECT and INSERT
   4. GRANT and REVOKE
3. The SQL statement:

SELECT ROUND (65.726, -1) FROM DUAL;

Prints:

1. is illegal
2. garbage
3. 726
4. **70**
5. Which of the following are the synonyms for Column and ROW of a table?

Row = [Tuple, Record]

Column = [Field, Attribute]

Row = [Tuple, Attribute]

Columns = [Field, Record]

1. **1 and 2**
2. 3 and 4
3. Only 1
4. Only 2
5. Evaluate the SQL statement:

SELECT ROUND (TRUNCATE (MOD (1600, 10), -1), 2) FROM dual;

What will be displayed?

* 1. **0**
  2. 1
  3. 00
  4. An error statement

**SECTION-C(Coding Question) (4x5 marks=20 marks)**